

Continuity versus priority in Nomenclature

by

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It is well known that the rules of zoological nomenclature date from 1905 when the Code of International Rules of Zoological Nomenclature adopted by the 5th International Zoological Congress at Berlin in 1901 came into force. One of the principal rules of this Code is the Law of Priority (art. 25) providing that the valid name of a genus or species can be only that name under which it was first designated, from 1758 onwards. The main object to arrive at was to obtain more uniformity and stability and to put an end to the prevailing confusion with regard to nomenclature. When the rules were drawn up it was expected that this uniformity and stability could be attained and this even quite soon.

Have these expectations been realized? Now, after more than forty years, since the law of priority has been applied more rigidly, we may safely maintain that the confusion to-day is no less annoying than before 1905.

Nowadays nobody, except the specialist, knows or even can know what name has to be applied to an animal species, and even the specialist himself must always be mindful of a name proved applicable to-day being invalidated to-morrow. What gives most trouble is when names having been in use for a long period for one species are transferred to other species, which procedure causes a permanent source of confusion. In consulting indices it also is a great trouble to find a species mentioned in one file under a certain name and in the next one under a quite different one. Restricting myself to beetle names the following instances may be given. The well-known blister beetle, already denoted by HIPPOCRATES (400 b. C.) as *cantharis*, is no longer put in the genus *Cantharis* but in that of *Lytta*, at the same time the genus hitherto called *Telephorus* is rebaptized *Cantharis*. The name of the grain-weevil for more than a hundred years known as *Calandra* should be *Sitophilus* and the name *Calandra* is conferred to the weevils always denoted by the generic name *Sphenophorus*. For the well-known genus of *Bruchus*, the bean-weevils, at one time the name *Mylabris* was used, afterwards *Laria*, now again *Bruchus* is said to be valid. But how long? The economically important bark-beetles were first designated as Bostrichidae, then Scolytidae, nowadays often Ipsidae, the usual name *Tomicus* being replaced by *Ips*, a name formerly in use for a genus of the Nitidulidae.

The taxonomists usually have scarcely any idea of what a nuisance these everlasting transmutations in nomenclature are to the non-

taxonomist. They forget too often that they practise their science not only in behalf of themselves. The anatomist, the physiologist, the biogeographer, the parasitologist and many others too who only need taxonomy as a useful help, want continuity and stability.

Nomenclature has been called the housekeeper of taxonomy settling the affairs, but this lady is now ordered about by the maid-servant: the law of priority, with the result that nobody can find anything or knows where to look for it except this servant, herself having messed the whole business.

Advocates of the priority law not seldom admit the mutations of names to be troublesome but two arguments of defence are advanced: first, only one generation would suffice to accept the new names, and secondly, only a small percentage of all animal names needs alteration. As to the first argument, nearly two generations have passed since the Code came into force without any lasting stability being effected. Moreover, each new generation could easily accustom itself to one or more new names for a species or family but the older name by which the taxonomic unit was known in the principal literature of the last century or the past fifty years cannot be neglected. Specially this breaking of the connection with the older literature is considered an unnecessary and lasting trouble.

The second argument is only formally right, the alterations of names, however, mainly concern the names of animals well known for a long period and having been provided since long with names. The non-taxonomist makes use chiefly of these names and it is exactly the mutations of these names that are most troublesome.

What is the main cause of the trouble? That we have arrived at a blind alley is not so much a consequence of the rules themselves as well of the fact that they are of retroactive effect, even as far back as 1758, this being contradicted by all principles of legislation. Earlier authors are unreasonably required to have applied the rules and restrictions which we impose upon ourselves. The later addition to rule 25 of names having no validity unless meeting certain conditions of publication came rightly into force only from January the 1st, 1931. Some scientists would give this rule retroactive effect also, fortunately the majority has waived this proposal by which again many well-known and long-used names would have become unstable.

Former authors did not reject the law of priority, but they made a choice by neglecting unknown publications or those which in their opinion were not worthy of consideration. At their time they had a perfect right to this attitude which even deserves more justification than the unrestricted application of the priority rule, requiring the ferretting into all possible and impossible publications, zoological and non-zoological, with the purpose of detecting a name given to an animal according to the Code. HANDLIRSCH (1913) declared with perfect justice that the rules "nicht dazu dienen, stümperhafte, in ihrer Zeit betrachtet unwissenschaftliche Arbeiten oder selbst solche von Schwindlern oder Narren zu glorifizieren".

According to art. 33 names should not be rejected on account of tautonomy. Formerly, before the introduction of the Code, this rejection was generally accepted and an author raising a specific name¹⁾ to a generic one substituted a new specific name for the original name to avoid tautonomy.

This avoidance was considered not only desirable but necessary, even with such emphasis that botanists still reject names because of their tautonomy (art. 68 of the Int. Rules of Botanical Nomenclature). Without adopting the botanical rule it would be wise to avoid tautonomy with names having been in general use for a long period (e.g. *Melolontha vulgaris* instead of *Melolontha melolontha*).

Remarkably enough, recent authors take full liberty to change family names, denying the same right to older authors with respect to generic or specific names. Names such as Mantidae and Phasmidae are corrected into Manteidae and Phasmatidae, whereas the names Malacodermididae and Scarabaeidae are rejected because of inappropriateness. Also the rule of priority is rarely applied to family names, the oldest name being seldom considered the only valid one.

Objections against the strict application of the Code have been raised since long and there was already an opposition when it was adopted, although the true consequences could not be foreseen at the time. I may cite the statement of SCLATER (1896) pronounced even before the rule of priority became an infrangible law: — "It is, I repeat, the extremist and the sensationalist, who strive to astonish us by carrying out the law of priority to its "bitter end", that have caused the disgust which many of us feel at the mere mention of priority in nomenclature".

Not long after the introduction of the International Code MORTENSEN (1912) took a referendum among Scandinavian and Finnish zoologists resulting in 2 votes for and 120 against the strict application of the priority rule in all cases. In other countries too such referenda were taken and in England there were only 26 supporters of the rule among 112 voters, and at an annual meeting of the Deutsche Zoologische Gesellschaft a motion for the restriction of the priority rule was undersigned by no less than 635 zoologists and submitted to the International Commission on Zoological Nomenclature (Zool. Anzeiger 40, 1912).

Not until 1913, however, the said Commission became empowered by the Intern. Zoological Congress at Monaco to suspend the rules of the Code in such cases "where in its judgement the strict application of the rules will clearly result in greater confusion than uniformity". The names in question should be published a year before in two or more zoological periodicals giving specialists the

¹⁾ I would advocate the use of "specific" name instead of trivial name, trivial having in common parlance the meaning of "common" or "vulgar". The Code also uses the term "specific" against "generic". Moreover, "subspecific" name cannot be substituted by "subtrivial". A species or scientific name is formed by a generic + a specific name.

opportunity to pronounce their opinion for or against the proposal. Formerly a proposal for fixing a name should be accepted unanimously by the Commission, later on only a majority supporters was sufficient. The names approved are published as Opinions and they are included in the Official List of Generic Names in Zoology.

Something has been gained by this possibility of suspending the rules. The whole procedure, however, of getting names which are well-known and of long use to be placed on the Official List is very cumbersome. It is therefore no great wonder that now after more than thirty years only a very small number of names have been fixed as nomina conservanda and placed on the Official List. Of the many thousands of generic names of Arthropoda (excl. Crustacea) only 104 genera are admitted. Among them 78 genera belong to the Insects, 24 to Arachnoids (18 Acari), one to the Xiphosura (*Limulus*), and one to the Myriapods (*Polydesmus*). Among the insects there is so far not a single genus of beetles.

The necessity of an early publication of names remaining fixed and unalterable was insisted on at each congress and in many papers. In 1915 APSTEIN in collaboration with other specialists has drawn up lists of nomina conservanda for many groups of animals, and HANDLIRSCH (1913) has done the same for the insects in the well-known text-book of SCHRÖDER. How scanty the progress is, becomes evident if a comparison is made between the said lists and the results of the International Commission.

As a starting point the mistake was keeping to the law of priority too strictly and too long. It remains regrettable that zoologists have not conferred with the botanists holding a more liberal point of view quite from the start. Art. 4 of the International Rules of Botanical Nomenclature defines as the essential points in nomenclature: (1) to aim at fixity of names; (2) to avoid or to reject the use of forms and names which may cause error or ambiguity or throw science into confusion.

The exception by which suspension of the rules is allowed ought to be a principle rule and should be placed at the beginning of the Code. Botanists on introducing their rules decided at the same time to provide a list of names having come into general use and which must be retained. It was also decided that for different groups of plants nomenclature starts at different dates or from publications of a later date than those of LINNAEUS.

Many papers urging the necessity of revision of zoological nomenclature have been published. In these mainly two proposals come to the fore, that concerning continuity or permanency, and that concerning prescription. The principle of continuity has been advocated emphatically by HEIKERTINGER and he has worded this principle (1935) as follows: "Gültiger Name einer Gattung oder Art ist derjenige, den der Bearbeiter in wissenschaftlichem Gebrauche vorfindet, gleichgültig, ob dieser Name der erstgegebene ist oder nicht. Stehen für eine Gattung oder Art zwei oder mehr Namen in Gebrauch, so hat der Bearbeiter jenen Namen als gültig festzulegen, dessen Beibehaltung die wenigsten nomenklatorischen

Umwälzungen in der bestehenden wissenschaftlichen Literatur verursacht".

The principle of prescription has already been defended in 1858 by SCHAUM and afterwards by many others. According to this principle names should be retained which were in universal use for a certain period, mostly 25 to 50 years. The year in which the usual name has been introduced is generally taken as initial date. WHEELER (1913), however, made the proposal that an older name traced in a certain publication should not be accepted if it displaces one which has been in universal and unchallenged use for 25 years at the time of such discovery.

Now objections can be raised against the principle of continuity as well as against that of prescription as hitherto formulated. Neither of these principles ought to replace the law of priority in all cases. Little difficulties arise in applying this law to names published after the introduction of the Code, in 1905. The law causes most trouble if applied to the oldest names. Only in a very few instances has a proposal been made to the International Commission for retaining a name published after 1900. In the first place we have to make a distinction between the names established before 1905 and those published after that date. The Code should be applicable without restriction to the latter names but should not have retroactive effect. Chiefly the retaining of names established before 1905 and having been in continued use is advisable.

The difficulty is how to ascertain which names were in continued use. How to fix these names? According to the International Rules of Botanical Nomenclature these names are by preference those which have come into general use in the fifty years following their publication, or which have been used in monographs and important floristic works up to the year 1890 (art. 21).

How far back should we go to find out which names were in continued use? A name of LINNAEUS could have been in unchallenged use up to 1800 and replaced afterwards by another one becoming the usual name from that date. I should like to advise with regard to zoological names the acceptance as fixed data the period between 1864, when the zoological Record appeared, and 1905, when the Code came into force. It is easy to ascertain what new names for genera and species are proposed from the date the Zoological Records were published, and from that time any specialist could of course take these new names into account. In consulting the Records it is very striking how many names in use in 1864 remained unaltered till about 1900 when the law of priority began having its disastrous influence. The names generally used between 1864 and 1905 should therefore be considered as having been in continued use.

The best and most effective method to fix these names is to accept as starting point for the nomenclature a monograph or catalogue concerning a special animal group, by preference not lower than a order, published between 1864 and 1905. In such a publication the new rules and especially the law of priority should not

have been carried out too strictly. Subjective preference in selecting names is excluded, the earlier author has already made his choice by retaining the names in general use at the time. Moreover, many names were adopted or remained in use by the very publication of such a comprehensive work. Finally, it will not be difficult to take account of all new names established at a later date by consulting the Zoological Records and taking such a basic work as starting point. The names used in such a monograph or catalogue have precedence, irrespective of their being the oldest or not. Not all names fixed in this way are available but rejection is only allowed on taxonomic grounds and usually not on mere nomenclatorial ones.

In a monograph or catalogue accepted as starting point names may be found which neither were in continued use formerly nor became approved afterwards. In this case the International Commission should be advised to replace such a name by one of more universal use including it in the Official List.

Other names used may be based originally upon an ineligible name. Ineligible names are :

- a. names borrowed from a publication dated from before 1758 ;
- b. names being neither latin nor can be considered as such ;
- c. names adopted from an author not using a binary nomenclature ;
- d. names being *nomina nuda* or based upon an insufficient description or indication.

Ineligible names are contrary to art. 3, art. 25a and 25b, and art. 26 of the Code. Ineligible names are to be distinguished from illegitimate names which are not in accordance with other rules too.

Formerly names were not seldom borrowed from works published before 1758, this being no wonder the latter date having become fixed first at the introduction of the Code. BLANCHARD (1889) proposed to go as far back as 1722, others advocated LINNAEUS' twelfth edition of the *Systema Naturae*, 1766, as starting point.

Are all ineligible names to be rejected ? This is quite unnecessary. Only the citation should be suppressed but the names themselves could be retained, they should only take status as from the first subsequent occasion on which they were published in accordance with the rules. The question is still unsettled whether a name adopted from a publication the author of which used a binary but not a binominal nomenclature should be considered valid or not. A binary nomenclature is not seldom found with older authors, e.g. GEOFROY, the genus being indicated by a single latin word, but the species by a number of words, in fact a short diagnosis. On the other hand scientific names are binominal having the generic as well as the specific name designated by a single term.

The question whether names borrowed from authors using only a binary nomenclature should have any status of validity or not is of little consequence when the principle of continuity is accepted, the only question of importance is whether a name should be retained on account of its being of continued use. Also the fixing of the exact date of publication is negligible in selecting a name.

According to art. 36 homonyms once rejected can never be used

again. Formerly authors have not always observed this rule, specially if the earlier homonym itself was suppressed because the name never became into use or was not available being synonymous with another name. It is not advisable to reject usual names being a later homonym of a name to be cancelled. There is no gain at all in suppressing both homonyms, one owing to its being published at a later date, the other also owing to other reasons. The International Commission too suspends this rule when approving a name of universal use to be included in the Official List. Nor is there urgency either to reject an earlier specific name once suppressed on account of homonymy if the species is transferred to another genus.

The forward diligence of some authors proposing new names as soon as a homonym is met with is much to blame. The first consideration should always be whether alteration of the name is not to be avoided, or whether suppression of the earlier homonym should not be taken into consideration. Any recommendation of suppressing an earlier homonym should, however, be submitted to the judgement of the International Commission.

With regard to emendation of names a broader point of view should be taken than prescribed by the Code (art. 19) ; here, too, the Botanical Rules (art. 70) are more advisable. The spelling of a name, specially those derived from classic Greek, should be in accordance with special regulations, even if the original author took another view. We have the intention to revert to this subject in a separate paper.

Further usual names may be rejected on taxonomic grounds. The name may be based upon an erroneous identification. In dealing with generic names difficulties seldom arise, for a genus can be fixed sufficiently by designation of a genus-type¹). A specific name in general use may be based on an erroneous identification of material, the usual name and the original name being homonymous but not synonymous, both being founded on different types. The usual name cannot be retained unless the name is given the status of availability.

In uniting or splitting taxonomic units the articles 28, 29 and 31 of the Code should be observed. In uniting two or more units the new unit takes the valid name of the oldest of its components, in splitting a unit its name is to be retained for one of the new units, if the type can be fixed, for the part containing the type.

Summarizing our standpoint we get the following draft of the principle of continuity or permanency :

1. To avoid disadvantageous and never ending changes in the nomenclature by the strict application of the International Rules and especially of the law of priority, the scientific names, which

¹) The term genus-type is used here instead of genotype, a word having a definite meaning in hereditary science, although the term genotype in nomenclature is of older origin. The term generotype, sometimes suggested, is not more preferable ; moreover, genus-type is in consonance with the usual term species-type.

were universally adopted and in general use between 1864 and 1905, should be retained.

2. These names are :

a) in the first place the names used in a monograph or catalogue with bibliographic references concerning a special animal group, by preference not lower than an order, and published between 1864 and 1905 ;

b) secondly the names which were in general use for at least twenty-five years during the said period.

The names as comprised under a) and b) have precedence and generally are not displaced on nomenclatorial grounds.

3. Which monograph or catalogue is to be accepted as basic work for the nomenclature of a special group of animals should be fixed by international agreement. If no monograph or catalogue as stated above can be designated for certain groups of animals, lists of nomina conservanda concerning these groups should be published as soon as possible by the International Commission on Nomenclature in accordance with the provisions of article 2 sub b).

4. If in any case there is some doubt about the retaining or changing of a name adopted according to the above rules this name should be retained until the International Commission on Nomenclature has taken a decision.

It is also important to alter the regulations for determining the genus-types. The regulation formulated in art. 30 sub I a-d of the Code, concerning the hologenustypes, should be maintained. If, however, the original author has not designated or indicated the typical species of his new genus, subsequent authors should preferably choose a species that will fix the generic name as it is generally applied. The same regulation is included in the Code of Botanical Nomenclature with regard to non-vascular Cryptogams (art. 18, Recommendation VI).

The author has applied the above mentioned rules to a number of names of beetles and worked out the results by accepting the well-known catalogue of GEMMINGER and DE HAROLD, published between 1868 and 1876, as basic work. This catalogue (hereafter to be designated as Cat. G. H.) chiefly meets the demands made on p. 38. The recent *Coleopterorum Catalogus* by JUNK-SCHENKLING (1910—1940) is not satisfactory, for too many names formerly in general use have been changed ; this work is composed by numerous authors some keeping strictly to the international rules, whereas others do not. Moreover, a number of names changed on nomenclatorial grounds, and specially family names, are now restored again.

Now HANDLIRSCH (1913) and APSTEIN (1915) have proposed a large number of beetle names to be retained as nomina conservanda, 144 names being drawn up by the first named author and no less than 321 by APSTEIN. With both authors 376 coleopterous names altogether are to be found. Of this total no less than 324 names are the same as those used in the Cat. G.H. ; 52 are not in accordance

with the nomenclature of these authors. These 52 names are enumerated in the annex List I.

HANDLIRSCH often gives a generic name without mentioning any species, an unsatisfactory procedure, for a generic name can only be fixed by supplementing the names of one or more species, preferably the typical species, included in the said genus. If he proposed *Curculio* Linn. as a nomen conservandum the meaning is quite uncertain as at the same time also *Balaninus nucum* and *Hyllobius abietis* are names recommended for conservation.

Of the 52 names recorded in List I six names applied by G. & H. are not available on account of homonymy (*Trogus*, *Hydrachna*, *Ceratorrhina*, *Metocus*, *Macropus* and *Macrocephalus*; cfr. List II). Further there are 12 names exhibiting orthographic variants. G. & H. are authors who adhere to very rigid classic principles, therefore many names are emended on purely grammatical grounds. Only in a few instances their congruous standpoint can be approved, e.g. *Acis* for *Akis*. In other cases the original spelling must be retained for such changes as *Bembidion* into *Bembicidium*, or *Omalium* and *Opatrum* into *Homalium* and *Hopatrum* are too radical to be worthy of being imitated.

Eleven names proposed by HANDLIRSCH and APSTEIN cannot be borrowed unaltered from the Cat. G.H. for change is necessitated on taxonomic grounds, almost entirely for the species being placed into new genera, separated from the older ones to which they were still brought by G. & H. In one instance only the uniting of two genera, *Eumicrus* and *Scydmaenus*, took place.

Finally there are three family names which need further consideration. The names Anobiidae and Lampyridae are not yet used by G. & H., these families being included in those of the Ptinidae and Malacodermidae. The old family name Cantharidae (= Meloidae), however, should be retained.

Twenty more names still remain but these can all be borrowed from G. & H. without much difficulty. Thus altogether no less than 344 of 376 nomina conservanda proposed for the Coleoptera can be adopted from the Cat. G. H.

We have to consider now whether there are monographs or catalogues for other insect groups which can be recommended as basic nomenclatorial works. Annex to this paper a list of publications suggested for this purpose will be found.

In the same way as the Catalogue of GEMMINGER and de HAROLD satisfies our theses, the well-known Catalogue of the Hymenoptera by DALLA TORRE will fulfil our purposes. I have, however, to leave it to other specialists to test the names advocated by APSTEIN and HANDLIRSCH for the Hymenoptera and compare them with the nomenclature used in the said publication. This holds good also with reference to the other works suggested; only some provisional remarks can be made here.

For instance, of the 21 hymenopterous names now placed on the Official List 15 are to be found in DALLA TORRE's Catalogue. The names not in conformance are three generic names: *Anthophora*

= *Podalirius* (D.T.), *Arge* = *Hylotoma* (D.T.), *Diprion* = *Lophyrus* (D.T.). Much can be said in favour of replacing the name *Podalirius* by the later but more generally used name *Anthophora*. The name *Lophyrus* is preoccupied. In the case of *Arge* it remains to be seen which name should have preference as being in more continual use. Further four specific names are not adopted: *Anthophora pilipes* = (*A.*) *acervorum* (D.T.), *Astata abdominalis* = *A. boops* (D.T.), *Bethylus fuscicornis* = *B. cenopterus* (D.T.), *Pompilus pulcher* = *P. plumbeus* (D.T.).

It is particularly striking that the International Commission is more readily moved to fix generic names in universal use but seems very reluctant to suspend the rules with regard to specific names, although the retaining of these names which have generally been applied is of equal importance.

It is not so easy to find a work for the Diptera to be recommended. The world catalogue by KERTÉSZ remained incomplete, recent catalogi, also of the Hymenoptera, being in course of publication are not satisfactory for here mostly the principle of priority is more or less strictly applied. Only the Katalog der Palaearktischen Dipteren by BECKER a.o. remains for consideration.

We are in the same difficulty with respect to the Lepidoptera; only the catalogue by STAUDINGER and REBEL can be of service although this work also only covers the palaearctic region. There are certainly some objections to be raised against this restriction; on the other hand the fixation of names of European genera, being mostly the oldest and in longest use, is certainly of some advantage.

As to the Trichoptera we are fortunate enough to have at our disposal the recent work by ULMER, 1907, including all species and in which the law of priority is not yet carried out to the bitter end. All seven names recommended by APSTEIN for this group are also applied by ULMER.

The same applies to PIAGET's publication of 1880 concerning the eight nomina conservanda proposed for the Mallophaga. As regards the Anoplura there are, however, some inconformities. For the Suctoria only the monograph by TASCHENBERG 1880 deserves recommendation.

The Rhynchota are such a divergent group of insects that we have to look for a comprehensive work for each separate division. FERNALD's Catalogue of the Coccidae of the World meets our desires in many respects, although here too some names need replacing. As to the Heteroptera and Homoptera no complete catalogues being available, we have to confine ourselves to the work of OSHANIN dealing with the palaearctic species. It is of some advantage that it also includes the Psyllidae. As to the Aleurodidae¹⁾ this family is still so restricted and the number of genera so small

¹⁾ We write Aleurodidae and not Aleyrodidae. It is certainly to be advocated to render the Greek u always by y; however, this is certainly incorrect with the u in diphthongs like au, eu or ou. The spelling Aleyrodes should be considered an explicit orthographic error.

(only three in 1908) that there can be little uncertainty about the right names.

No monograph or catalogue of the Aphids has appeared between 1864 and 1905 which can serve as a basic work for the nomenclature. We have to go back to KOCH, *Die Pflanzenläuse*, 1854—1857, or KALTENBACH's Monograph of 1843. The latter publication seems to be more preferable.

With the Neuroptera (s.l.) too it is impossible to recommend a comprehensive work. The contribution by BRAUER of 1876 seems to give the best results as far as concerns those groups about which no later or more complete monographs or catalogues exist. These are: the Panorptata, Neuroptera (s.s.), Embiidæ and Perlidæ. The Corrodentia (Psocids) are also to be eliminated for of the nine names given by APSTEIN to be retained only two are used by BRAUER.

For the Isoptera we should suggest the revision by DESNEUX in *Genera Insectorum*, for the Ephemeroidea EATON's Monograph, and for the Odonata the Catalogue of KIRBY. In this publication in three cases only other names are applied out of the 14 nomina conservanda advocated by APSTEIN: KIRBY has *Agrion* for *Calopteryx*, *Caenagrion* for *Agrion*, and *Aeshna* for *Gomphus*.

As regards the Orthoptera KIRBY's Catalogue (1904—1910) is better left out of account for here too many usual names are replaced by novelties which cannot even be approved according to the Code. The catalogue by WALKER of earlier date is no more preferable comprising only the Blattidae and Orthoptera saltatoria. The only work to be recommended is BRUNNER VON WATTENWYL's *Prodromus der europäischen Orthopteren*, 1882. This monograph is at least complete as far as the European species are considered. Of the 29 names of orthopterous insects (Dermaptera incl.) now included in the Official List 17 are also used by BRUNNER, 9 names concern non-European species. Only three names remain about which BRUNNER has a nomenclature at variance with the opinion of the Intern. Commission. These are: the generic names *Locusta* and *Blatta*, and the specific name of the type species of *Gryllotalpa*. BRUNNER applies the name *Locusta* in the usual sense with *viridissima* Linn. as typical species, following here the typification by LATREILLE 1810. The I.C. has decided that *Gryllus* (*Locusta*) *migratorius* Linn. should be the type species. In this instance the Commission has repudiated two of his own opinions; that of the validity of the designation of genus-types in LATREILLE 1810 (Opin. 11 & 136), and of the various subdivisions of genera published by LINNAEUS, 1758, not being acceptable as of sub-generic value under the Code (Opin. 124). Further we should prefer the name *Gryllotalpa vulgaris* Latr. which was in continual use before the introduction of the Rules instead of the specific name *gryllotalpa* Linn. Only in the case of *Blatta orientalis* Linn. for *Periplaneta orientalis* as found in BRUNNER we can entirely fall in with the decision of the I.C.

UZEL's Monograph is the most appropriate one for the Thysan-

optera as is LUBBOCK's work on the Collembola and Thysanura.

If we could decide to take the above mentioned publications as basis works for the nomenclature, we should much sooner arrive at stability by selecting for each group of insects a great number of names which should not be replaced unless there is urgent necessity. We have pointed out how many of the nomina conservanda proposed by APSTEIN and HANDLIRSCH are to be found in the said works, and how also the majority of the names fixed by the Intern. Commission and placed on the Official List are in conformance with the nomenclature used in the works recommended. Instead of giving lists with hundreds of names tens could suffice being corrections of the nomenclature in the publications adopted for our purposes.

Now, some people will argue that most of the works suggested are entirely out of date, but this argument originates from confusing nomenclature and taxonomy. The main point is the retaining of names having been in continued use. Taking LINNAEUS 1758 as a starting point for zoological nomenclature, as prescribed by the Code, also only involves the acceptance of his names and not in the least of his system.

As a matter of course we cannot place all generic and specific names used in these works on the Official List without further discussion. But we can retain most of these names not changing them on mere nomenclatorial grounds. Necessary changes should be published and submitted to the opinion of the International Commission and zoologists generally. These changes in the first place refer to names to be rejected owing to being homonyms, and the valid names by which they are to be replaced. In the latter case adequate attention should be paid to what has been said about homonymy on p. 40.

Further the fixation of family names should be recommended, beginning with the names already in general use in 1864, for each family the typical genus with the type-species being included in the Official List. This is of special importance concerning those family names about which there is some controversy.

The above proposal to retain the names used in certain monographs and catalogues adopted as nomenclatorial basis works shows some similarity with the suggestion to publish lists of "transitional names". A committee for this purpose has been established on the International Zoological Congress at Monaco (1913), without achieving any results, however (cfr. MORTENSEN 1929). Although the object was not very clearly formulated, the main point seemed to be to give lists of names not to be altered and to be used provisionally. The proposition made in this paper is to retain also a number of names until a decision is taken by the I. C. about the names causing some confusion.

I should like to make another suggestion in connection with the above exposition, regarding the citation of the author's name following the species name. We would advise not to mention the name of the original author in adopting names from specified works but

to place double symbols (always in parentheses) behind the species name: a symbol for the animal group, followed by the name of the author or authors (abbreviated) of the basis publication. So the symbols (Cocc. Fern.)¹ behind a name do not only indicate the species as belonging to the Coccidae, but also that it is recorded by that name in Fernald's catalogue. (See also the annex list of special publications). Moreover, by this method we are at once directed to the publication where we will find more details. With species described after the publication of the work accepted as nomenclatorial basis, we give the symbol of the group together with the name of the author followed by the year of publication. As most of the basic works suggested date from after 1864 the said affixes are sufficient directions for consulting the Zoological Record of the year and the group indicated and how to know where the species has been described. Names placed on the Official List should have the symbol O.L. behind the symbol of the animal group: e.g. *Diprion pini* (Hym. O.L.).

The above rules would mean a great simplification and a guidance, also for the non-specialist, as to which names are to be used as long as the International Commission has taken no decision. They only mean an effort to stop the prevailing and apparently never ending uncertainty and confusion in nomenclature and to arrive at a solution to be adopted provisionally.

List of publications suggested as basic works for the nomenclature of insect groups, with the symbols by which they should be cited.

Coleoptera

GEMMINGER et DE HAROLD 1868—1876. Catalogus Coleopterorum (Col. G.H.)

Hymenoptera

DE DALLA TORRE 1892—1902. Catalogus Hymenopterorum (Hym. D.T.)

Diptera

BECKER e.a. 1903—1905. Katalog der Palaearktischen Dipteren I—IV (Dipt. Beck.)

Lepidoptera

STAUDINGER u. REBEL 1901. Catalog der Lepidopteren des Palaearktischen Faunengebietes 3e. Aufl. (Lep. S.R.)

Trichoptera

ULMER 1907. Trichoptera. Genera Insectorum 60. (Trich. Ulm.)

Suctoria.

TASCHENBERG 1880. Die Flöhe (Suctoria) (Suct. Tschb.)

Rhynchota

OSHANIN 1906—1909. Verzeichnis der Palaearktischen Hemipteren (Hem. Osh.)

I. Heteroptera. II. Homoptera (Cicadinea & Psyllidae).

KALTENBACH 1843. Monographie der Pflanzenläuse (Aph. Kalt.)

¹) To avoid confusion with compound author's names the symbol of the group should always be printed in italics.

FERNALD 1903. A catalogue of the Coccidae of the World (Cocc. Fern.)

Mallophaga, Anoplura

PIAGET 1880. Les Pédiculines (*Pedic.* Piag.)

Isoptera

DESNEUX 1905. Isoptera (Termitidae) Genera Insectorum 25 (*Isopt.* Desn.)

Neuroptera (s. l.) [excl. Trichoptera, Corrodentia, Isoptera, Ephemeroptera en Odonata]

BRAUER 1876. Die Neuropteren Europas (*Neur.* Br.)

Thysanoptera

UZEL 1895. Monographie der Thysanoptera (*Thrip.* Uz.)

Orthoptera

BRUNNER VON WATTENWYL 1882. Prodromus der europäischen Orthopteren (*Orth.* Brn.)

Odonata

KIRBY 1890. A synonymic Catalogue of Neuroptera Odonata (*Odon.* Kirby)

Ephemeroptera

EATON 1883—1888. A Monograph of Recent Ephemeridae (*Ephem.* Eat.)

Collembola & Thysanura

LUBBOCK 1873. Monograph of the Collembola and Thysanura (*Apt.* Lubb.)

List I

Nomina conservanda (Coleoptera) proposed by APSTEIN and HANDLIRSCH which are not in conformance with the nomenclature used by GEMMINGER & DE HAROLD.

Acrocinus longimanus L. (Apst.) = *Macropus* l. (G.H.) = *Acrocinus* l. (Col. Cat.)

Adimonia tanaceti L. (Apst.) = *Galeruca t.* (G.H., Col. Cat.)

Agonum uliginosum Er. (Apst.) = *Platynus krynickii* Sperk. (G.H.) = *Agonum k.* (Col. Cat.)

Akis (Handl.) = *Acis* (G.H.) = *Akis* (Col. Cat.).

Anobiidae (Handl.) = *Ptinidae* (part.) (G.H.)

Anomala frischeri F. (Apst.) = *A. aenea* Deg. (G.H.) = *A. dubia* Scop. (Col. Cat.)

Anthribus albinus L. (Apst.) = *Macrocephalus a.* (G.H.) = *Anthribus a.* (Col. Cat.)

Astynomus aedilis L. (Apst.) = *Acanthocinus a.* (G.H., Col. Cat.)

Ateuchus sacer L. (Apst.) = *Scarabaeus sacer* (Handl., G.H., Col. Cat.)

Bembidium (Apst.; Handl.) = *Bembicidium* (G.H.) = *Bembidion* Col. Cat.)

Brachynus (Apst., Handl.) = *Brachinus* (G.H.) = *Brachynus* (Col. Cat.)

Brachytarsus varius F. (Apst.) = *Anthotribus v.* (G.H.) = *Brachytarsus nebulosus* Forst. (Col. Cat.)

- Bruchus pisi* L. (Apst.) = *Bruchus pisorum* L. (Handl., G.H., Col. Cat.)
Buprestis gigantea L. Apst. = *Euchroma g.* (G.H., Col. Cat.)
Campylus linearis L. (Apst.) = *Lepturoides l.* (G.H.) = *Denticollis l.* (Col. Cat.)
Cantharis fusca L. (Handl.) = *Telephorus f.* (Apst., G.H.) = *Cantharis f.* (Col. Cat.)
Cerambyx heros Scop. (Apst.) = *C. cerdo* L. (Handl., G.H., Col. Cat.)
Clerus formicarius L. (Apst., Handl.) = *Thanasimus f.* (G.H., Col. Cat.)
Cneorrhinus geminatus F. (Apst.) = *C. globatus* Herbst. (G.H.) = *Philopodon plagiatu*s Schall. (Col. Cat.)
Cupedidae (Handl.) = *Cupesidae* (G.H.) = *Cupedidae* (Col. Cat.)
Cybister roeseli Fuessly (Apst.) = *Trogus virens* Müll. (G.H.) = *C. lateralmarginalis* Deg. (Col. Cat.)
Cyphon variabilis Thunb. (Apst.) = *Helodes v.* (G.H.) = *Cyphon v.* (Col. Cat.)
Dicranorrhina micans Dru. (Apst.) = *Ceratorrhina m.* (G.H.) = *Dicranorrhina m.* (Col. Cat.)
Dictyopterus rubens Gyll. (Apst.) = *Eros r.* (G.H.) = *Dictyopterus r.* (Col. Cat.)
Eleodes (Apst., Handl.) = *Elaeodes* (G.H.) = *Eleodes* (Col. Cat.)
Galeruca nymphaeae L. (Apst.) = *Galerucella n.* (G.H., Col. Cat.)
Heilipus (Apst.) = *Hilipus* (G.H., Col. Cat.)
Hylastinus obscurus Marsh. (Apst.) = *Hylastes trifolii* Müll. (G.H., Col. Cat.)
Hylobius abietis L. (Apst., Handl.) = *Curculio a.* (G.H.) = *Hylobius a.* (Col. Cat.)
Lampyridae (Handl.) = *Malacodermidae* (*Lampyrini*) (G.H.)
Lethrus cephalotes Pall. (Apst.) = *L. apterus* Laxm. (G.H.) = *L. cephalotes* (Col. Cat.)
Limobius (Apst.) = *Limonobius* (G.H.) = *Limobius* (Col. Cat.)
Limonium cylindricus Payk. (Apst.) = *L. aeruginosus* Oliv. (G.H., Col. Cat.)
Lina populi L. (Apst.) = *Melasoma p.* (G.H., Col. Cat.)
Lytta vesicatoria L. (Handl.) = *Cantharis v.* (Apst., G.H.) = *Lytta v.* (Col. Cat.)
Macraspis cincta Dru. (Apst.) — *Antichira c.* (G.H.) = *Macraspis c.* (Col. Cat.)
Manticora maxillosa F. (Apst.) = *Mantichora tuberculata* Deg. (G.H., Col. Cat.)
Meloidae (Handl.) = *Cantharidae* (G.H.) = *Meloidae* (Col. Cat.)
Molytes germanus L. (Apst.) = *Liparus g.* (G.H. Col., Cat.)
Mononychus pseudacori F. (Apst.) = *M. punctum-album* Herbst. (G.H., Col. Cat.)
Myelophilus piniperda L. (Apst.) = *Hylurgus p.* (G.H.) = *Myelophilus p.* (Col. Cat.)

- Omalium* (Apst.) = *Homalium* (G.H.) = *Omalium* (Col. Cat.)
Opatrum (Apst., Handl.) = *Hopatrum* (G.H.) = *Opatrum* (Col. Cat.)
Orina gloriosa F. (Apst.) = *Chrysomela g.* (G.H.) = *Chrysochloa g.* (Col. Cat.)
Pelobius (Apst. ; Handl.) *hermanni* F. (Apst.) = *Hydrachna tarda* Herbst (G.H.) = *Hygrobia hermanni* (Col. Cat.)
Phytonomus punctatus F. (Apst.) = *Hypera p.* (G.H.) = *Phytonomus p.* (Col. Cat.)
Rhagium inquisitor L. (Apst.) = *Stenocorus i.* (G.H.) = *Rhagium i.* (Col. Cat.)
Rhipiphoridae (Handl.) *Rhipidophoridae* (G.H.) = *Rhipiphoridae* (Col. Cat.)
Rhipiphorus paradoxus L. (Handl.) = *Metoeocus p.* (Apst. ; G.H. ; Col. Cat.)
Scydmaenus tarsatus Müll. et Kz. (Apst.) = *Eumicrus t.* (G.H.) = *Scydmaenus t.* (Col. Cat.)
Sitona (Apst.) = *Sitones* (G.H.) = *Sitona* (Col. Cat.)
Strangalia armata Herbst (Apst.) = *Leptura maculata* Poda (G.H.) = *Strangalia m.* (Col. Cat.)

List II

Names of the Coleoptera of List I according to the rule of continuity. (A generic name in parenthesis after the first genus name indicates a subgenus ; a generic or specific name in parenthesis after the name of a species denotes the name used by GEMMINGER & DE HAROLD ; generic names in square brackets are homonyms).
 Cicindelidae

Mantichora tuberculata (Col. G.H.)

Carabidae

Bembidion

Brachynus

Platynus krynickii (Col. G.H.)

Dytiscidae

Cybister virens [Trogus] (Col. G.H.)

Hygrobiiidae

Hygrobia tarda [Hydrachna] (Col. G.H.)

Cupedidae

Staphylinidae

Omalium

Scydmaenidae

Scydmaenus tarsatus (*Eumicrus*) (Col. G.H.)

Cleridae

Clerus (*Thanasimus*) *formicarius* (Col. G.H.)

Dascillidae

Cyphon variabilis (*Helodes*) (Col. G.H.)

Telephoridae

Telephorus fuscus (Col. G.H.)

Lycidae

Dictyopterus rubens (*Eros*) (Col. G.H.)

Buprestidae

Euchroma gigantea (Col. G.H.)

Elateridae

Lepturoides linearis (Col. G.H.)*Limonium aeruginosus* (Col. G.H.)

Cantharidae

Cantharis vesicatoria (Col. G.H.)

Rhipiphoridae

Rhipiphorus paradoxus [Metoeus] (Col. G.H.)

Tenebrionidae

*Acis**Eleodes**Opatrum*

Scarabaeidae

Anomala aenea (Col. G.H.)*Dicranorrhina micans* [Ceratorrhina] (Col. G.H.)*Lethrus cephalotes* (apterus) (Col. G.H.)*Macraspis cincta* (Antichira) (Col. G.H.)*Scarabaeus sacer* (Col. G.H.)

Curculionidae

Cneorrhinus globatus (Col. G.H.)*Curculio abietis* (Col. G.H.)*Heilipus**Limobius**Liparus germanus* (Col. G.H.)*Mononychus punctum-album* (Col. G.H.)*Phytonomus punctatus* (Hypera) (Col. G.H.)*Sitona*

Scolytidae

Hylastes trifolii (Col. G.H.)*Myelophilus piniperda* (Hylurgus) (Col. G.H.)

Anthribidae

Anthribus varius (Anthotribus) (Col. G.H.)*Platystomus albinus* [Macrocephalus] (Col. G.H.)

Bruchidae

Bruchus pisorum (Col. G.H.)

Cerambycidae

Acanthocinus aedilis (Col. G.H.)*Acrocinus longimanus* [Macropus] (Col. G.H.)*Cerambyx cerdo* (Col. G.H.)*Rhagium inquisitor* (Stenocorus) (Col. G.H.)*Strangalia maculata* (Leptura) (Col. G.H.)

Chrysomelidae

Chrysochloa gloriosa (Chrysomela) (Col. G.H.)*Melasoma populi* (Col. G.H.)*Galerucella nymphaeae* (Col. G.H.)*Galeruca tanacetii* (Col. G.H.)

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